



Environmental Protection

*Through Proper Medical
Waste Management*

Ronald Pilorin, Chief,

Medical Waste Management Program
California Department of Health Services

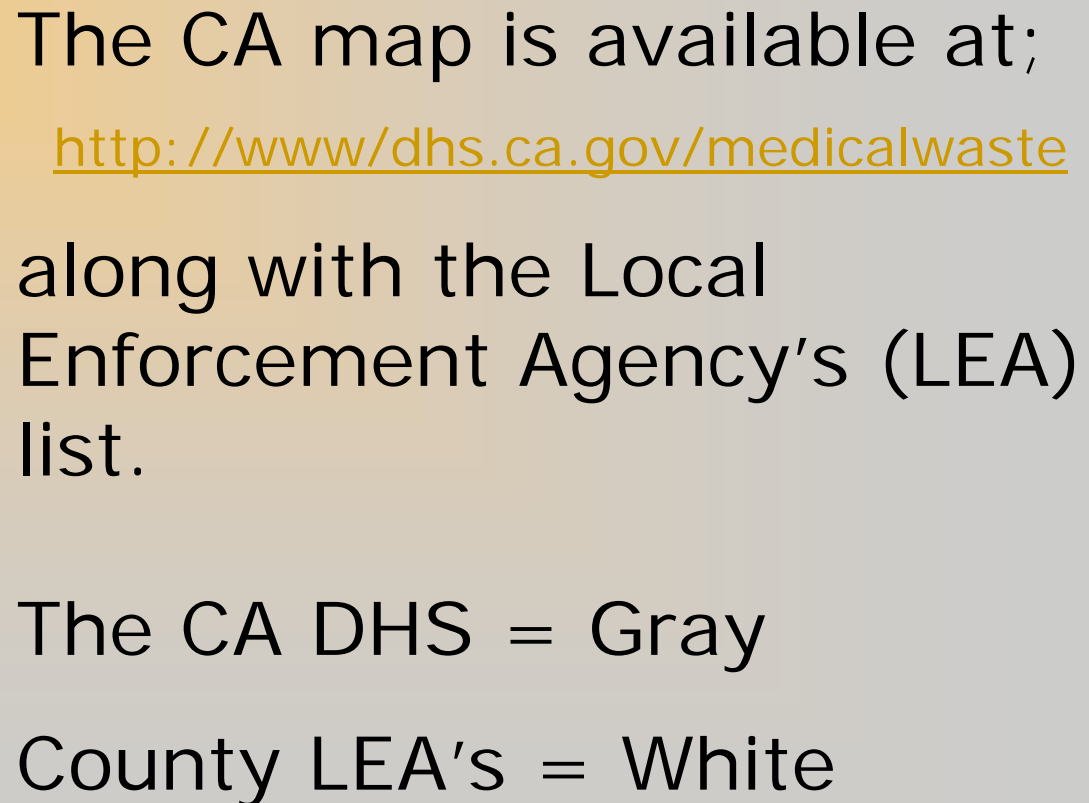
April 14, 2004



Objectives



- ★ State vs. Local Enforcement Agency's
- ★ Medical Waste vs. Non-Medical Waste
- ★ Different Types of Medical Waste Streams
- ★ Transfer Stations and Treatment Facilities (Solid & MW)
- ★ Treated vs. Untreated Medical Waste
- ★ Home Generated Medical Waste





What is Medical Waste...



HSC §117690 - Medical Waste (MW)

★ (a) "Medical waste" means...both of the following...

(1) Waste generated or produced as a result of

(A) Diagnosis, treatment, or immunization of human beings or animals.

(B) Research pertaining to the activities specified in subparagraph (A).

(C) The production or testing of biologicals.

(D) The accumulation of properly contained home-generated sharps waste that is brought by a patient, a member of the patient's family, or by a person authorized by the enforcement agency....





Medical Waste...



(E)trauma scene waste from a trauma scene waste management practitioner.



(2) ...either of the following:

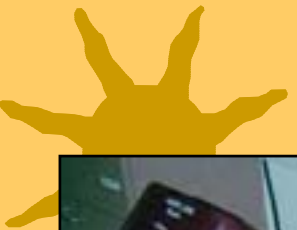
(A) Biohazardous waste.

(B) Sharps waste.





Medical Waste...



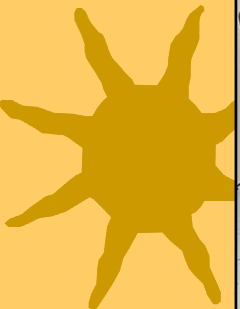
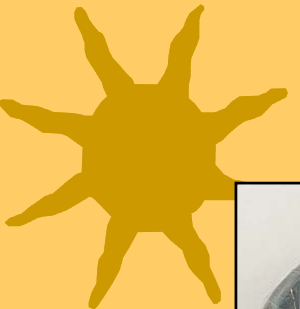


Medical Waste...





Medical Waste...





What is Biohazardous Waste...



HSC § 117635 - Biohazardous Waste

“Biohazardous waste” means any of the following:

- ★ (a) Laboratory waste.....
- ★ (b) Human surgery specimens or tissuessuspectedof being contaminated with infectious agents.....
- ★ (c) Animal parts, tissues, fluids, or carcasses suspected contaminated with infectious agents





Biohazardous Waste...



★ (d) Waste.....contains recognizable fluid blood, fluid blood products, containers or equipment containing blood that is fluid, or blood from animals.....



★ (e) Waste containing discarded materials contaminated with excretion, exudate, or secretions.....required to be isolatedto protect others from highly communicable diseases or diseases of animals.....





Biohazardous Waste...



★ (f)

(1) Waste which is.....human surgery specimens or tissues which have been fixed in formaldehyde or other fixatives, chemotherapeutic agents.....

(2)....

(3)a container, or inner liner removed from a container..... is empty if the container or inner liner removed from the container has been emptied by the generator as much as possible..... so that the following conditions are met:

(A)no material can be poured or drained from the container or inner liner



Biohazardous Waste...



(B)no material or waste remains in the container or inner liner that can feasibly be removed by scraping.

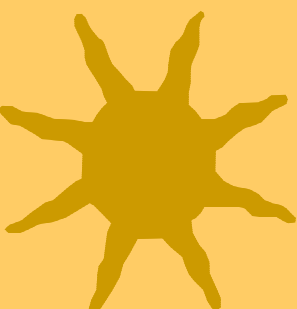
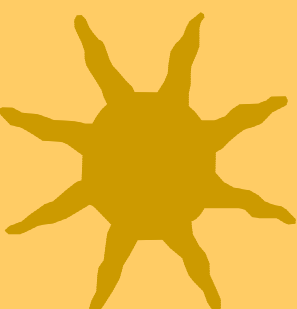


★ (g)pharmaceuticals



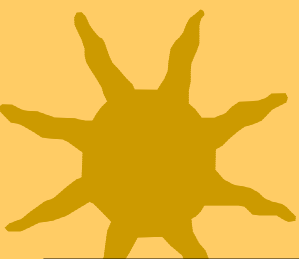


Biohazardous Waste...





Biohazardous Waste...





Medical Waste Cheat Sheet....



Waste generated from:

- ★ Diagnosis, treatment, or immunization of humans or animals
- ★ Research
- ★ Production or testing of Biologicals
- ★ Accumulation of Home Generated MW
- ★ Trauma Scene Waste

And;

- ★ Biohazardous Waste
 - * lab waste
 - * surgery waste
 - * animal tissues/parts
 - * fluid blood
 - * path, pharm, chemical
 - * comm. disease waste
- ★ Sharps Waste



Who's Who in Medical Waste...



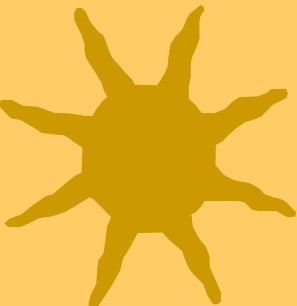
Generators:

- ★ Small Quantity = <200 lbs/month
- ★ Large Quantity = >200 lbs/month
- ★ Trauma Scene Waste Mgt. Practitioners



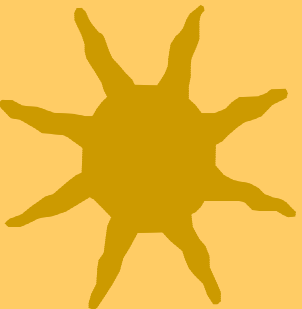
Non- Generators:

- ★ Transporters (exception is a Limited Quantity Hauling Exemption = LQHE)
- ★ Transfer Stations
- ★ Off-site Treatment Facility





LQHE...



- ★ ...generates less than 20 pounds of MW per week, transports less than 20 pounds of MW at any one time, and the generator or parent organization has on file...a SQG or LQG registration....
- ★ ...transports the MW him/herself or directs a member of his or her staff to transport the MW to a permitted medical waste treatment facility, a transfer station, a parent organization...
- ★ ...the generator maintains a tracking document or equivalent...



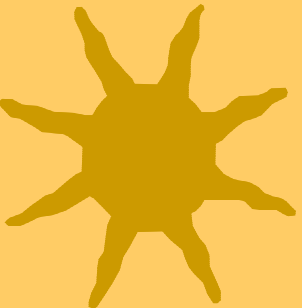
Different Types of MW Streams



★ Biohazardous Waste = Autoclave or Microwave



★ Bio Sharps Waste = Autoclave or Microwave



★ Pharmaceutical Waste = Incinerate or approved Alt. Tech.

★ Pathology Waste = Incinerate or approved Alt. Tech.

★ Chemotherapy Waste
(including Chemo Sharps) = Incinerate or approved Alt. Tech.



Containers & Labels...



- ★ MW shall be contained separately from other waste at the point of origin in the producing facility...
- ★ Sharps containers may be placed in biohazard bags or in containers with biohazard bags.
- ★ Biohazardous waste...shall be placed in a red biohazard bag conspicuously labeled with the words "Biohazardous Waste" or with the international biohazard symbol and the word "BIOHAZARD." (exception = pharms)



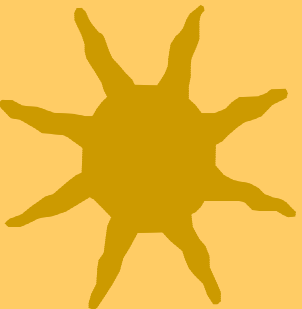
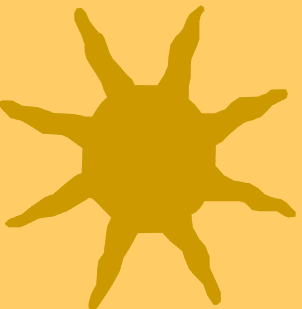
Containers & Labels...



- ★ Sharps waste shall be contained in a sharps container...Tape closed or tightly close the lid of full sharps containers...Label with "sharps waste" or with the international biohazard symbol and the word "BIOHAZARD".
- ★ Biohazardous waste shall not be removed from the biohazard bag until treatment...
- ★ Biohazardous waste shall not be disposed of before being treated...



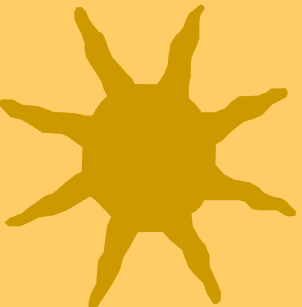
Containers & Labels...



- ★ Chemo-therapeutic agents, shall be segregated for storage, and, when placed in a secondary container, that container shall be labeled with the words "Chemotherapy Waste", "CHEMO", ...
- ★ Chemo sharps waste shall be placed in sharps containers labeled in accordance with the industry standard with the words "Chemo-therapy Waste", "CHEMO", ...



Containers & Labels...



- ★ Human surgery specimens or tissues which have been fixed in formaldehyde or other fixatives, shall be segregated for storage and, when placed in a secondary container, that container shall be labeled with the words "Pathology Waste", "PATH"
- ★ Recognizable human anatomical parts...shall be segregated for storage and, when placed in a secondary container for treatment as pathology waste, that container shall be labeled with the words "Pathology Waste", "PATH",



Containers & Labels...



- ★ Pharm waste shall be segregated for storage and, when placed in a container or secondary container, that container shall be labeled with the words "INCINERATION ONLY"...
- ★ Containerized biohazard bags...shall be tied to prevent leakage... for future storage, handling, or transport...
- ★ Biohazardous waste, except pharms, shall be bagged in a red bag and placed...



Containers & Labels...

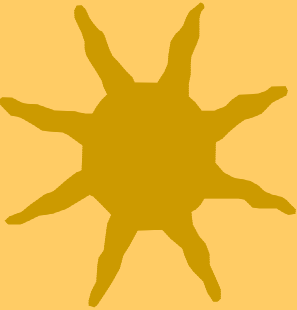


...for storage, handling, or transport in a rigid container which may be disposable, reusable, or recyclable. Containers shall be leak resistant, have tight-fitting covers, and be kept clean and in good repair.

- ★ Containers may be recycled with the approval of the enforcement agency.
- ★ Containers may be of any color and shall be labeled with the words "Biohazardous Waste" or with the international biohazard symbol and the word "BIOHAZARD" on the lid and on the sides so as to be visible from any lateral direction.

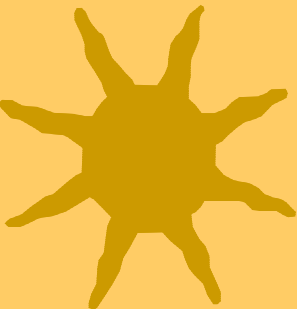


Storage Time Limits...



MW Generated On-Site:

- ★ ...>20 lbs total of MW per month above 0° C (32° F) for NOT more than seven days...
- ★ ...< 20 lbs total of MW per month above 0° C (32° F) for NOT more than 30 days...
- ★ ...store biohazardous or sharps waste at or below 0° C (32° F) for NOT more than 90 days...
- ★ Pharms:
 - >10 lbs total for NOT more than 90 days...
 - <10 lbs total for NOT more than 1 year...

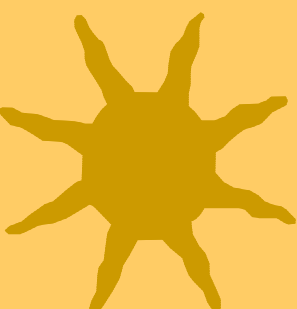




MW Storage Areas...



★ Any enclosure or designated accumulation area used for the storage of MW containers shall be:



- secured so as to deny access
- marked with warning signs with this wording "CAUTION—BIOHAZARDOUS WASTE STORAGE AREA—UNAUTHORIZED PERSONS KEEP OUT," and in Spanish, "CUIDADO—ZONA DE RESIDUOS—BIOLOGICOS PELIGROSOS—PROHIBIDA LA ENTRADA A PERSONAS NO AUTORIZADAS," ...



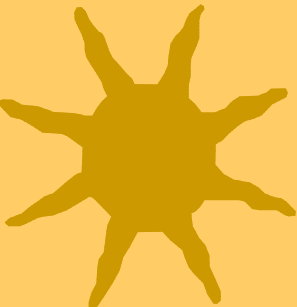


Storage Time Limits...



MW Stored Off-Site:

- ★ Store MW at a permitted transfer station at or below 0° C (32 ° F) for not more than 30 days...
- ★ Shall not store MW above 0° C (32° F) at any location or facility which is offsite from the generator for more than seven days before treatment...
- ★ If the odor from biohazardous or sharps waste stored at a facility poses a nuisance, the enforcement agency may require more frequent removal.





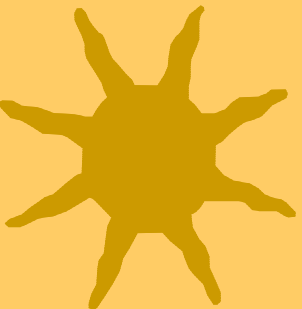
Washing Containers...



- ★ A person shall thoroughly wash and decontaminate reusable rigid containers for MW...each time they are emptied...
- ★ These containers shall be maintained in a clean and sanitary manner. Approved methods of decontamination include:
 - ★ (a) Exposure to hot water of at least 82° C (180° F) for a minimum of 15 seconds.
 - ★ (b) Exposure to chemical sanitizer by rinsing with, or immersion in, one of the following for a minimum of 3 minutes
 - ★ (1) Hypochlorite solution (500 ppm available chlorine).
 - ★ (2) Phenolic solution (500 ppm active agent).
 - ★ (3) Iodoform solution (100 ppm available iodine).
 - ★ (4) Quaternary ammonium solution (400 ppm active agent).



Transfer Stations and Treatment Facilities....



- ★ For a list of Permitted Medical Waste Transporters, Transfer Stations, and Off-Site Treatment Facility's, visit:

<http://www.dhs.ca.gov/medicalwaste>



Types of Treatment...



- ★ Incineration*, (including Alternative Treatment Technology = > 1300F)
 - * Recognizable human anatomical parts...

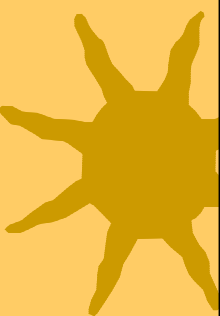


- ★ Steam Sterilization = 250° F for 30 min
- ★ Microwave Treatment...
- ★ Alternative Treatment Technology...
- ★ MW may be discharged to a public sewage system without treatment...
- ★ MW that is a biohazardous waste ...may be treated by a chemical disinfection...





Treatment Methods...



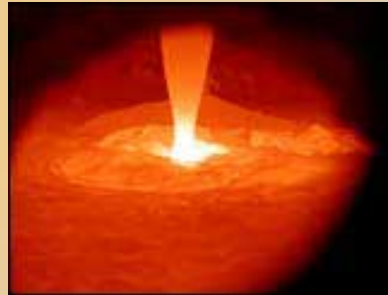


Treatment Methods...





PEM Treatment Method...



Integrated Environmental Technology – Plasma Enhanced Melter (PEM)

The IET Plasma Arc Melter™ destroys medical waste in a chemically reducing environment at temperatures exceeding 1800°F. Organic material (plastics, pathology, pharmaceutical and trace chemotherapy waste) is converted via steam reforming into synthesis gas that can be sold for hydrogen content or to power onsite electrical or steam plants. The system is equipped with activated charcoal filters which are specially dosed to remove mercury from the gas. The gas can be sold for the hydrogen value or used for on-site production of electricity and/or steam. The residual inorganic material (glass, ceramics, needles, ash) forms a leach resistant glass that will incorporate any heavy metals present.



TRU Treatment Method...



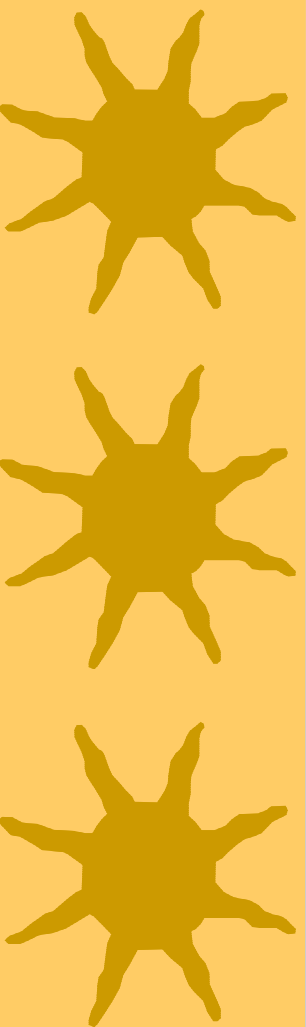
North
American
Power –
Thermal
Recovery
Unit (TRU)

In this process, medical waste is first steam-sterilized, then shredded and fed through an airlock system (to exclude oxygen) and augered through a retort chamber. The waste is heated externally (i.e., no flame reaches the waste) to temperatures ranging from 1000° to 1850° F. All volatile material in the waste becomes gaseous; the remainder is reduced to a carbon char. The gases are then fed into a secondary chamber, a Thermal Oxidizer (TO), where, in an oxygen-rich environment they are ignited and converted to CO₂ and H₂O. Exit gasses pass through a baghouse before discharge to the atmosphere. The char is solid waste and may be landfilled or recycled.





Treated Medical Waste...





MW Issues & Questions....





What about HIPAA?



Health Insurance Portability & Accountability Act

- ★ TITLE 22. Social Security
Division 5. L&C of Health Facilities, Home Health Agencies, Clinics, and Referral Agencies
Chapter 1. General Acute Care Hospitals
Article 7. Administration
§70707. Patients' Rights
- ★ (b) A list of these patients' rights shall be posted in both Spanish and English in appropriate places within the hospital so that such rights may be read by patients. This list shall include but not be limited to the patients' rights to:
- ★ (8) Confidential treatment of all communications and records pertaining to the care and the stay in the hospital. Written permission shall be obtained before the medical records can be made available to anyone not directly concerned with the care.



More on HIPAA...



- ★ **TITLE 22. Social Security**
Division 5. L&C of Health Facilities, Home Health
Agencies, Clinics, and Referral Agencies
Chapter 1. General Acute Care Hospitals
Article 7. Administration
§70751. Medical Record Availability.
- ★ (b) The medical record, including X-ray films, is the property of the hospital and is maintained for the benefit of the patient, the medical staff and the hospital. The hospital shall safeguard the information in the record against loss, defacement, tampering or use by unauthorized persons.



Home Generated MW...



- ★ **HSC §117670 “Household Waste”** means any material including garbage, trash, and sanitary wastes in septic tanks and medical waste, that is derived from household, farms, or ranches. Household waste does not include trauma scene waste.



Home Generated MW Sharps...



Use rigid, leak-proof containers, tape the lid on, & label "SHARPS" to control HGMW sharps...

Do Not use recycle containers to control HGMW sharps...





Non-Regulated Medical Waste...



HSC §117700 - Not Medical Waste (MW)

Medical waste does not include any of the following:

- ★ (a) Waste generated in food processing or biotechnology that does not contain an infectious agent as defined in Section 117675.
- ★ (b) Waste generated in biotechnology that does not contain human blood or blood products or animal blood or blood products suspected of being contaminated with infectious agents known to be communicable to humans.
- ★ (c) Urine, feces, saliva, sputum, nasal secretions, sweat, tears, or vomitus, unless it contains fluid blood, as provided in subdivision (d) of Section 117635.
- ★ (d) Waste which is not biohazardous, such as paper towels, paper products, articles containing...





Non-Regulated Medical Waste... (cont'd)



...nonfluid blood, and other medical solid waste products commonly found in the facilities of medical waste generators.



★ (e) Hazardous waste, radioactive waste, or household waste.



★ (f) Waste generated from normal and legal veterinarian, agricultural, and animal livestock management practices on a farm or ranch.



Non-Regulated Medical Waste...





For More Information

Contact:

Ron Pilorin (916) 449-5689, or
rpilorin@dhs.ca.gov

Cindy Garcia (916) 449-5679, or
cgarcia@dhs.ca.gov



For More Information

Contact:

Thom Carmichael (530) 886-4984,
or TCarmich@placer.ca.gov

Eileen Shelton (530) 645-5180 ex. 3
or EShelton@placer.ca.gov



For More Information



For Medical Waste Management Info:

<http://www.dhs.ca.gov/medicalwaste.htm>



For Solid Waste Management Info:

<http://www.wpwma.com/>



Welcome to *California*


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[LEA's](#)
[Medical Waste Generators](#)
[Transporters](#)
[Transfer Stations and Treatment Facilities \(on-site and off-site\)](#)
[Trama Scene Waste Management Practitioners](#)
[Home Generated MW](#)
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[Hospital Pollution Prevention Program](#)
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Division of Drinking Water and Environmental Management

☐ My CA

☒ This Site

California Medical Waste Management Program (Program)

To protect the public and the environment from potential infectious exposure to disease causing agents the Program regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the [Medical Waste Management Act](#) (Division 104, Part 14 California Health and Safety Code). The Program permits and inspects all medical waste [off-site treatment facilities](#) and [medical waste transfer stations](#). In addition to the treatment methods specifically allowed in the MWMA, there are more than a dozen [Alternative Medical Waste Treatment Technologies](#) approved for use in California.

Additionally, the Program acts as the local enforcement agency in [27 local jurisdictions](#) (Counties – [See CA Map](#)) that elected to have the state implement the large quantity generator inspection program within their jurisdictions. Also, the Program assists [generators of medical waste](#) in minimizing waste generation through training and facilitating implementation of its [Hospital Pollution Prevention Program \(HP²\)](#). For more information on Medical Waste Management Program activities use the links to the left, or contact either the Medical Waste Management Program HQ at (916) 449-5671, or the Southern California Regional Office at (213) 977-7379 or (213) 977-6877. Inquiries to the Medical Waste Management Program may be sent via e-mail* to: MedWasteInfo@dhs.ca.gov

Now available is [Hospital Pollution Prevention \(P2\) Strategies](#). This document has been developed as a result of the above documents as well as information from the pollution prevention grant received from the USEPA. A systems approach has been taken to minimize waste and eliminate mercury in hospitals. For management of all medical waste this December 5, 2002 letter from CA DHS discusses provisions offered to permitted transfer stations and off-site treatment facilities to assist in meeting the needs of medical waste generators while protecting public health with interim measures that should be taken regarding the incinerable medical waste stream - [Alternative Medical Waste Guidance for the incinerable waste stream](#). A new follow-up document entitled: [Greening of the Red Bag Waste Stream](#) is now available. The document describes six interventions strategies that can be taken by California hospitals to reduce their medical wastes.

Mailed correspondence should be addressed to:

**California Department of Health Services
Medical Waste Management Program
P.O. Box 997413, MS 7405
Sacramento, CA 95899-7413**